

REMARKS

Initially, Applicants would like to express appreciation to the Examiner for the detailed Official Action provided.

Upon entry of the above amendment, claims 1, 2, 7, and 8 will have been amended. Accordingly, claims 1-12 are currently pending. Applicants respectfully request reconsideration of the outstanding rejections and allowance of claims 1-12 in the present application. Such action is respectfully requested and is now believed to be appropriate and proper.

The Examiner has rejected claims 1, 2, 4-8, 10 and 11 under 35 U.S.C. § 103(a) as being unpatentable over et al. HAMAZAKI et al. (JP 11-354089) in view of MASUMOTO et al. (WO 03/003485).

Although Applicants do not necessarily agree with the Examiner's rejection of claims 1, 2, 7, and 8 on this ground, nevertheless, Applicants have amended independent claims 1, 2, 7, and 8 to clearly obviate the above noted ground of rejection in order to expedite prosecution of the present application. In this regard, Applicants note that HAMAZAKI et al. and MASUMOTO et al. fail to teach or suggest the subject matter claimed in amended claims 1, 2, 7, and 8. In particular, claims 1, 2, 7, and 8, as amended, set forth a battery pack including, inter alia, a plurality of prismatic rechargeable batteries; a circuit substrate; a pack case; and a frame holding the rechargeable batteries and on which the circuit substrate is mounted; wherein "the plurality of rechargeable batteries are surrounded by the frame, the frame including a center frame having battery accommodating parts that hold center parts of the batteries and arrange the rechargeable batteries in parallel spaced relationship; a bottom frame having bottom accommodating parts that receive bottoms of the rechargeable batteries; and a terminal side

frame attached to the circuit substrate and having sealing part accommodating parts that receive sealing plate sides of the rechargeable batteries”.

This amendment is fully supported by the specification, including the claims and drawings, and no prohibited new matter has been added. In particular, support for the above amendment may be found at least in figures 1-5 and in the specification on pages 8-11.

Applicants' claimed battery pack includes a plurality of rechargeable batteries 2 arranged in parallel, with their largest flat surfaces being directed orthogonal to the bottom surface of the pack case 5 and opposite each other with a space therebetween. To keep the rechargeable batteries 2 arranged in parallel spaced relationship, the center parts of the rechargeable batteries 2 are held by a center frame 7. The center frame 7 includes battery accommodating openings 17 that match the cross section of the lengthwise center of the rechargeable battery. Further, the ends of the rechargeable batteries 2 are supported by a terminal-side frame 6 and a bottom frame 8.

As shown in Fig. 4, when the rechargeable batteries 2 are inserted in their respective battery accommodating parts 17, the center frame 7 surrounds the central parts of the batteries 2, so that the cases 24 of the rechargeable batteries 2 are tightly held and do not swell. Swelling of the battery cases 24 is restricted by the width of the battery accommodating parts 17, whereby performance degradation of the rechargeable batteries 2 caused by swelling of the battery cases 24 is prevented.

The rechargeable batteries 2 are oriented in the same direction and inserted in respective battery accommodating parts 17 of the center frame 7, and to the bottom of the rechargeable batteries 2 is attached the bottom frame 8, which is formed with parallel-arranged bottom accommodating recesses 18 having the shape and dimensions that match those of the bottom

parts of the battery cases 24. To the sealing plate 23 side of the rechargeable batteries 2 is attached the terminal side frame 6, which is, as shown in Fig. 5B, formed with sealing part accommodating recesses 19 inside for accommodating the sealing plate 23 side of the rechargeable batteries 2. In the bottom of each recess are formed a positive electrode connection window 25 through which the positive electrode terminal 21 extends and a negative electrode connection window 26 for exposing part of the plate surface of the sealing plate 23. On the outer side of this terminal-side frame 6 are formed, as shown in Fig. 5A, a substrate accommodating recess 28 for accommodating the circuit substrate 3, and connection plate accommodating recesses 27 for accommodating series-connection plates 9, a positive electrode connection plate 10, and a negative electrode connection plate 11 for connecting the rechargeable batteries 2 in series to each other and to the circuit substrate 3. In the bottom surface of the connection plate accommodating recesses 27 are opened the above-mentioned positive electrode connection window 25 and the negative electrode connection window 26.

The rechargeable batteries 2 are surrounded by the terminal side frame 6, the center frame 7, and the bottom frame 8. After the frames are bonded together, the series-connection plate 9 shown in Fig. 7 is bridged across adjacent rechargeable batteries 2 and abutted to the positive electrode terminal 21 and the sealing plate 23 through the positive electrode connection window 25 and the negative electrode connection window 26 as shown in Fig. 6.

The HAMAZAKI et al. reference discloses a battery pack holding a plurality of batteries 1, a circuit substrate 5, and a pack case 2. The Examiner has indicated the frame in marked up copies of figures 1 and 2, provided on page 5 of the Official Action. As recognized by the Examiner, HAMAZAKI et al. fails to teach or suggest a liquid electrolyte accommodated in the battery case, a sealing plate sealing the open end of the battery case, and a resin mold.

Further, as shown in the figures, the frame of the HAMAZAKI et al. device comprises a portion of the case 5, and includes only a planar member on which the circuit substrate 3 is mounted. The planar member is adjacent one end only of the battery array, and does not surround the plurality of batteries. Further, the planar member of HAMAZAKI et al. does not include a center frame having parts that hold the center parts of the batteries, a bottom frame having parts that receive the bottoms of the batteries, and a terminal side frame having parts that receive the sealing plates of the batteries. Thus, the HAMAZAKI et al. device does not include “the plurality of rechargeable batteries are surrounded by the frame, the frame including a center frame having battery accommodating parts that hold center parts of the batteries and arrange the rechargeable batteries in parallel spaced relationship; a bottom frame having bottom accommodating parts that receive bottoms of the rechargeable batteries; and a terminal side frame attached to the circuit substrate and having sealing part accommodating parts that receive sealing plate sides of the rechargeable batteries, as set forth in amended claims 1, 2, 7, and 8.

Further, the MASUMOTO et al. reference discloses a battery. MASUMOTO et al. fails to teach or suggest a battery pack including a plurality of prismatic rechargeable batteries; a circuit substrate; a pack case; and a frame holding the rechargeable batteries and on which the circuit substrate is mounted. Moreover, MASUMOTO et al. fails to teach or suggests a frame including a center frame, a bottom frame, and a terminal side frame.

Therefore, the MASUMOTO et al. reference fails to cure the deficiencies of the HAMAZAKI et al. device, and even assuming, arguendo, that the teachings of HAMAZAKI et al. and MASUMOTO et al. have been properly combined, Applicants' claimed battery pack would not have resulted from the combined teachings thereof.

Further, there is nothing in the cited prior art that would lead one of ordinary skill in the art to make the modification suggested by the Examiner in the rejection of claims 1 and 7 under 35 U.S.C. § 103(a) over HAMAZAKI et al. in view of MASUMOTO et al. In this regard, there is nothing in the cited references or in the prior art to suggest modifying the HAMAZAKI et al. device to include prismatic batteries, to have a sealing plate, and to include a resin, as suggested by the Examiner. Thus, the only reason to combine the teachings of HAMAZAKI et al. and MASUMOTO et al. results from a review of Applicants' disclosure and the application of impermissible hindsight. Accordingly, the rejection of claims 1, 2, 7, and 8 under 35 U.S.C. § 103(a) over HAMAZAKI et al. in view of MASUMOTO et al. is improper for all the above reasons and withdrawal thereof is respectfully requested.

Applicants submit that dependent claims 3-6 and 9-12 which are at least patentable due to their dependency from claims 1, 2, 7, and 8 for the reasons noted above, recite additional features of the invention and are also separately patentable over the prior art of record based on the additionally recited features.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections, and an early indication of the allowance of claims 1-12.

FINALITY OF THE OFFICIAL ACTION

Applicants respectfully traverse the finality of the outstanding Final Official Action. In the first Official Action, claims 1, 2, 4, and 5 were rejected under 35 U.S.C. § 103(a) over HAMAZAKI et al. in view of MASUMOTO et al. (U.S. Patent No. 6,861,821). In the second Official Action, the claims 1, 2, 4-8, 10, and 12 were finally rejected under 35 U.S.C. § 103(a) over HAMAZAKI et al. in view of MASUMOTO et al. (WO 03/003485).

However, in accordance with the rules of the U.S. Patent and Trademark Office, "second or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims", nor based on information submitted in an information disclosure statement. See MPEP 706.07(a). It is respectfully submitted that the outstanding Official Action was improperly made Final. In this regard, it is respectfully submitted that the claim amendments did not necessitate the new ground of rejection, nor did the Examiner assert the same. The Examiner has asserted a new ground of rejection, and the Official Action should not have been made Final. The Examiner has apparently treated U.S. Patent No. 6,861,821 to MASUMOTO et al. as the same document as WO 03/003485 to MASUMOTO et al., and as, therefore, not comprising a new ground of rejection. However, it is clear that, even though the documents are in the same patent family, U.S. Patent No. 6,861,821 and WO 03/003485 are not the same document. Thus, contrary to the Examiner's assertions, these documents are not the same reference, and the second rejection comprises a new ground of rejection. The rejection set forth in the Final Official Action could have been set forth in the previous Official Action. Accordingly, the finality of the outstanding Official Action is believed improper and withdrawal thereof is respectfully requested.

SUMMARY AND CONCLUSION

In view of the foregoing, it is submitted that the proposed amendment is proper for entry since the outstanding Official Action should not have been made final; and it is also submitted that none of the references of record, considered alone or in any proper combination thereof, anticipate or render obvious Applicants' invention as recited in claims 1-12. The applied references of record have been discussed and distinguished, while significant claimed features of the present invention have been pointed out.

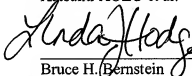
Accordingly, consideration of the present amendment, reconsideration of the outstanding Final Official Action, and allowance of the present amendment and all of the claims therein are respectfully requested and now believed to be appropriate.

Applicants have made a sincere effort to place the present application in condition for allowance and believe that they have now done so.

Any amendments to the claims which have been made in this amendment, which do not narrow the scope of the claims, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered cosmetic in nature, and to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should there be any questions, the Examiner is invited to contact the undersigned at the below listed number.

Respectfully submitted,
Katsumi KOZU et al.



Linda J. Hodge
Reg. #47,348

Bruce H. Bernstein
Reg. No. 29,027

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GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
(703) 716-1191